

Analysis of the Effectiveness of Chicken Egg Distribution in Maintaining Food Price Stability

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ABSTRACT

Purpose: This study aims to analyze the effectiveness of chicken egg distribution in maintaining food price stability and to identify factors influencing distribution efficiency within the national food system.

Research Method: This study employed a qualitative library research approach using content analysis. Secondary data were collected from academic journals, books, and policy reports via Google Scholar, ScienceDirect, SpringerLink, and the Garuda database, using keyword searches, screening, and thematic coding.

Results and Discussion: The findings indicate that the distribution of chicken eggs in Indonesia remains inefficient due to long distribution chains, high logistics costs, weak coordination among supply chain actors, unequal market information, and intermediary dominance. Geographic fragmentation and seasonal demand fluctuations also contribute to regional price disparities and food price instability.

Implications: The study emphasizes the importance of strengthening logistics infrastructure, institutional coordination, market transparency, and digital distribution systems to improve food price stability.

Originality: This study integrates perspectives on distribution effectiveness, supply chain coordination, intermediary structures, and value chain inequality within a single analytical framework.

Keywords: chicken eggs; distribution effectiveness; food price stability; supply chain; value chain.

1. Introduction

Food is a basic human need that plays a crucial role in supporting the survival and socioeconomic stability of society. Adequate food availability is related not only to production but also to distribution and affordability across all levels of society. Food price instability can directly affect people's purchasing power and can cause social and economic problems. In this context, food price stability is a crucial indicator in maintaining national food security (Idisi, 2021). According to Nainggolan (2013), food security encompasses the aspects of availability, distribution, and price stability, which must be maintained sustainably. In developing countries, maintaining food security has become increasingly complex due to uneven infrastructure development, logistical inefficiencies, and regional disparities in food distribution systems that contribute to unstable commodity prices and unequal market access.

One strategic food commodity that plays a crucial role in meeting the community's nutritional needs is chicken eggs. Chicken eggs are a relatively affordable source of animal protein and are widely



consumed. Demand for chicken eggs tends to increase in line with population growth and rising public awareness of the importance of nutrition. Therefore, the availability and affordability of chicken eggs are important factors in supporting community food security. This aligns with the opinion of Balher *et al.*, (2022), who stated that population growth drives increased consumption of chicken eggs as a primary source of protein. As one of the most consumed animal protein commodities, chicken eggs require a distribution system capable of maintaining continuity of supply, affordability, and price stability across regions.

However, the price of chicken eggs in the market often fluctuates significantly. These price changes can be influenced by various factors, both production and distribution. Rising feed costs, changes in market demand, and supply chain disruptions are the main factors affecting chicken egg prices. Uncontrolled price fluctuations can impact consumer purchasing power and create uncertainty for businesses. According to Mubarok *et al.*, (2024), chicken egg price volatility is influenced by production factors, seasonal demand, and distribution disruptions in the supply chain. This condition is consistent with Wulandari *et al.*, (2024), who emphasized that price instability can influence consumer economic behavior and satisfaction within market systems. These conditions indicate that price instability is not solely associated with production limitations but is also closely related to weaknesses in distribution coordination, logistics management, and market accessibility.

In addition to production factors, the distribution system plays a crucial role in determining the stability of chicken-and-egg prices. Inefficient distribution can lead to an imbalance between supply and demand across regions, triggering price disparities. Indonesia's vast geography, consisting of many islands, also poses a challenge in maintaining smooth food distribution. The longer the distribution chain, the greater the potential for price increases for consumers. This is supported by Nuryati & Nur (2012), who stated that the length of the supply chain and the concentration of production in certain areas lead to price differences between regions. In this study, distribution effectiveness refers to the ability of the distribution system to maintain product availability, ensure timely product delivery, minimize excessive logistics costs, reduce unnecessary intermediary chains, and support regional price stability between production and consumption areas.

A good food distribution network will ensure equitable availability of goods and maintain price stability in the market. Conversely, suboptimal distribution can lead to shortages in some areas and oversupply in others. Therefore, the effectiveness of the distribution network is a key factor in maintaining food price stability. According to Januar (2022), the food distribution network significantly influences the stability of food commodity prices in the market. In the supply chain system, coordination between producers, distributors, and traders also significantly determines distribution efficiency. Suboptimal management of inventory, goods flow, and information can disrupt distribution and affect consumer prices. Therefore, an integrated and efficient supply chain system is needed to maintain a balance between supply and demand. According to Ramadhan *et al.*, (2024), good supply chain management can improve distribution efficiency and maintain commodity price stability. Furthermore, the role of distributors as liaisons between producers and consumers is crucial to maintaining smooth distribution. Distributors play a role in ensuring goods reach the market on time and in sufficient quantities. If a disruption occurs in the distribution process, it will disrupt supply and potentially lead to price increases. This aligns with Febriani & Amirah (2026), who stated that distributors play a strategic role in maintaining the smooth flow of goods and supply stability.

Several recent studies have attempted to explain the relationship between distribution systems and chicken egg price stability. Mubarak *et al.*, (2024) found that chicken egg prices exhibit low but persistent long-term volatility and identified production and distribution constraints during the rainy season as major contributors to price instability. The study emphasized the importance of improving coordination mechanisms, production scheduling, and policy incentives to maintain commodity price stability. Similarly, Girsang *et al.*, (2023) documented high volatility in chicken and egg prices at the consumer level during the COVID-19 pandemic, indicating that disruptions in distribution significantly affected market stability. These findings demonstrate that distribution problems are closely associated with fluctuations in egg prices and supply instability.

Although previous studies have acknowledged the importance of distribution systems in influencing price stability, most remain limited in several respects. First, prior studies predominantly focus on identifying factors that cause price volatility rather than evaluating how distribution effectiveness reduces price instability. Second, existing research generally discusses logistics, supply chains, and commodity prices separately without integrating intermediary structures, regional supply imbalances, logistics efficiency, and distribution coordination into a comprehensive analytical framework. Third, empirical evidence explaining how effective distribution mechanisms specifically reduce regional price disparities and maintain supply continuity remains limited. As a result, the effectiveness of distribution systems as a standalone mechanism for stabilizing chicken egg prices has not been comprehensively examined.

In addition, previous discussions frequently use the terms distribution chain, supply chain, and value chain interchangeably, even though these concepts represent different analytical dimensions. The distribution chain refers to the movement of products from producers to consumers through intermediaries, while the supply chain encompasses broader operational coordination across inventory, transportation, and information flows. Meanwhile, the value chain emphasizes value creation activities performed by actors within the market system. The absence of clear conceptual distinctions among these terms can create ambiguity in understanding the determinants of chicken-and-egg price instability and distribution inefficiency. Therefore, a more integrated conceptual discussion is necessary to strengthen the analytical foundation of studies related to food distribution effectiveness.

Based on this background, this study aims to analyze the effectiveness of chicken egg distribution in maintaining price stability and supply continuity. This study specifically investigates the relationships among distribution effectiveness, supply chain coordination, intermediary structures, and regional price stability in the chicken-egg market. The main research question addressed in this study is: How does the effectiveness of chicken-egg distribution influence price stability and supply balance across regions? The novelty of this study lies in its attempt to integrate perspectives on distribution networks, supply chain coordination, intermediary structures, and regional price disparities into a single analytical framework to understand chicken-and-egg price stability. Unlike previous studies that primarily focus on production factors or logistics constraints in isolation, this study emphasizes the multidimensional role of distribution effectiveness as a mechanism that supports food security, market efficiency, and regional price stability.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides a discussion, Section 5 is the Concluding Remarks and Recommendations.

2. Literature Review and Hypothesis Development

2.1 Chicken Egg Distribution in the National Food System

Food distribution is a crucial part of the national food system because it ensures equitable availability of food across all regions. Uneven food distribution may create regional supply imbalances, increase logistics inefficiencies, and contribute to price disparities between production and consumption areas (Akinsemolu & Onyeaka, 2026). In developing countries with archipelagic characteristics, such as Indonesia, distribution challenges are often associated with infrastructure limitations, transportation costs, and unequal market access.

In the context of chicken eggs, distribution is heavily influenced by geographic conditions, infrastructure, and the length of the distribution chain. The distribution chain in the chicken-egg market generally involves multiple intermediaries, including collectors, wholesalers, and retailers, each of whom influences product movement, transaction costs, and regional market prices (Jilane *et al.*, 2024). Consequently, the effectiveness of distribution is not only related to product delivery but also to the system's ability to maintain supply continuity and price convergence across regions.

Chicken eggs, as a strategic food commodity, play a vital role in meeting the population's protein needs. Therefore, effective distribution is key to maintaining supply and price stability. According to Nuryati & Nur (2012), the distribution of chicken eggs in Indonesia is influenced by the concentration of production in certain regions and the length of the supply chain, resulting in price disparities between regions. This finding indicates that distribution effectiveness should be assessed not only by product availability but also by its ability to reduce regional price gaps, improve market accessibility, and maintain distribution efficiency within the national food system.

2.2 Supply Chain Concept in Chicken Eggs

A supply chain refers to an integrated system that connects various economic actors, activities, and resource flows involved in the production, distribution, and delivery of products to end consumers. Within the chicken egg industry, the supply chain includes production processes, inventory management, transportation systems, information exchange, and market coordination among actors operating at different distribution levels (Barua, 2024). In the case of chicken eggs, the supply chain involves various parties, including farmers, collectors, wholesalers, distributors, and end consumers. Each actor performs different economic and logistical functions that collectively influence supply continuity, transaction efficiency, and market price formation. The interaction among these actors determines the efficiency of the flow of goods, information exchange, and financial transactions within the supply chain system. Weak coordination among actors may increase distribution costs, delay product movement, and reduce the market's responsiveness to changes in supply and demand conditions.

Supply chain effectiveness is commonly associated with the system's ability to coordinate production, logistics, inventory, and market distribution efficiently. In the context of chicken eggs, supply chain effectiveness also reflects the capability of distribution actors to maintain stable supply flows and minimize excessive price fluctuations across regions. A poorly integrated supply chain can lead to distribution delays, supply imbalances, and higher logistics costs, all of which impact consumer prices. This condition demonstrates that supply chain inefficiencies may weaken regional market integration and contribute to disparities between producer and consumer prices.

According to Sejati (2011), the chicken-and-egg supply chain encompasses vertical relationships among farmers, suppliers, and markets, covering production, marketing, and distribution processes. This perspective emphasizes that supply chain performance is determined not only by production capacity but also by coordination efficiency and the ability to manage product distribution across interconnected market actors. Furthermore, in the chicken egg supply chain, marketing mechanisms are largely influenced by interactions between supply and demand conditions. However, price formation is not solely determined by market equilibrium but is also influenced by intermediary structures, transportation costs, distribution coordination, and regional differences in accessibility. Therefore, supply chain efficiency plays an important role in supporting market price stability, reducing distribution disparities, and strengthening food system resilience.

2.3 Chicken Egg Price Stability

Price stability is a condition in which the price of a commodity is relatively free from sharp fluctuations over a certain period. Chicken egg price stability is important because it affects consumer purchasing power, market accessibility, and the economic sustainability of poultry farmers and distribution actors within the food system (Scudiero *et al.*, 2023). Stable prices provide certainty for producers and consumers, while high price fluctuations can create uncertainty and risk in economic activity. This perspective is supported by Budari *et al.*, (2024), who explained that price conditions significantly influence consumer perceptions and economic decision-making within market activities. In food commodity markets, price stability also reflects the ability of distribution systems to maintain continuity of supply and balance between production and consumption regions.

Chicken egg prices tend to fluctuate due to multiple factors, including production capacity, market demand, distribution efficiency, logistics costs, and information asymmetry among market actors (Saat *et al.*, 2025). Production factors such as feed costs and the production rate of laying hens can influence the quantity supplied in the market. Meanwhile, distribution-related factors such as transportation costs, intermediary structures, supply chain length, and unequal regional accessibility may influence the final prices consumers pay. According to Nuryati & Nur (2012), fluctuations and disparities in chicken egg prices in Indonesia are influenced by distribution costs and differences in production and consumption locations. Furthermore, Sejati (2011) states that chicken and egg prices are influenced not only by market mechanisms but also by information limitations among distribution actors, which may reduce market responsiveness and weaken coordination across the supply chain. These findings indicate that chicken egg price stability is determined not only by production performance but also by the effectiveness of distribution systems, coordination among supply chain actors, logistics efficiency, and the accessibility of market information. Therefore, price stability should be understood as a multidimensional outcome shaped by interactions between production, distribution, and market governance mechanisms.

2.4 The Value Chain Concept in Chicken Egg Distribution

The value chain concept describes how value is created, distributed, and accumulated throughout the stages of production, distribution, marketing, and consumption within a market system (Tyapukhin, 2023). In the context of chicken-and-egg distribution, the value chain perspective emphasizes how each

actor contributes to the formation of product value and how economic benefits are distributed across the supply chain.

In chicken egg distribution, each actor in the supply chain contributes to adding value to the product, whether through distribution, storage, or marketing (Mitrovic *et al.*, 2021). These value-creating activities influence product quality, market accessibility, distribution efficiency, and the final price consumers pay. This added value is reflected in the price consumers pay. However, the distribution of economic value within the chicken-and-egg supply chain is often characterized by unequal bargaining power among actors. Farmers, as the primary producers, are often in a weak position in determining prices, while traders play a more dominant role in the distribution process. This imbalance may reduce farmers' share of value creation and increase dependency on intermediary actors who control market access and distribution channels. According to Sejati (2011), in the chicken egg supply chain, farmers tend to be price takers, resulting in relatively small added value compared to other actors. This condition reflects structural inefficiencies within the value chain, where unequal value distribution may weaken farmer welfare, reduce market efficiency, and contribute to disparities between producer prices and consumer prices.

2.5 Institutions in the Supply Chain

Institutions in the supply chain refer to the formal and informal rules, coordination mechanisms, and relational structures that govern interactions among actors operating within the production and distribution system. In food distribution systems, institutional arrangements play an important role in shaping market coordination, information exchange, bargaining power, and distribution efficiency. Strong institutional arrangements may support more efficient, transparent, and coordinated distribution systems. In contrast, weak institutional structures may increase transaction costs, reduce market efficiency, and create unequal access among supply chain actors. Institutional weaknesses may also contribute to information asymmetry, market dependency on intermediary actors, and unequal value distribution within the supply chain network.

In the chicken-and-egg supply chain, institutions encompass the relationships among farmers, traders, distributors, and both modern and conventional markets. These institutional relationships determine how products are distributed, how prices are formed, and how market access is controlled within the distribution network. Each actor possesses varying levels of bargaining power and market influence, which may affect the efficiency of product flow, price transmission, and supply continuity across regions. According to Sejati (2011), supply chain institutions reflect the vertical relationships between actors, encompassing production, distribution, and marketing of chicken egg products. Furthermore, suboptimal institutional arrangements may limit farmers' access to modern markets, weaken coordination among distribution actors, and reduce the availability of transparent market information. These conditions may reduce distribution efficiency, increase transaction and logistics costs, and contribute to regional price fluctuations in the chicken-egg market. Therefore, strengthening institutional coordination within the supply chain is necessary to improve distribution effectiveness, increase market transparency, strengthen farmers' bargaining positions, and support more stable food distribution systems.

3. Research Method

This research uses a qualitative, library-based approach. The qualitative library research approach was selected because this study aims to critically examine and synthesize prior studies on the effectiveness of chicken-egg distribution, supply chain coordination, and food price stability within the national food system. The qualitative approach was chosen because this study aims to gain a deep understanding of the phenomena related to the effectiveness of chicken-egg distribution in maintaining food price stability. Qualitative research emphasizes the exploration of meaning, contextual interpretation, and the understanding of social and economic processes occurring within natural settings. According to Malahati *et al.*, (2023), qualitative research is used to understand phenomena in natural settings and emphasizes meaning and processes. Furthermore, Sugiyono (2013) states that qualitative methods are used to examine phenomena in natural settings, with the researcher as the key instrument and inductive analysis.

This study employed a qualitative library research design, using secondary data from academic journal articles, books, policy reports, and prior studies on chicken egg distribution, supply chain management, food price stability, and value chain systems. The literature sources were obtained from several academic databases, including Google Scholar, ScienceDirect, SpringerLink, and Garuda. The literature search process was conducted using several keywords, including "chicken egg distribution," "food price stability," "supply chain of chicken eggs," "food distribution system," "value chain," "distribution efficiency," and "regional price disparity." The search focused primarily on publications discussing food distribution systems, supply chain coordination, logistics efficiency, intermediary structures, and commodity price stability.

The inclusion criteria consisted of studies on chicken-and-egg distribution systems, food supply chains, commodity price stability, institutional coordination, and value chain mechanisms, published in academic journals, books, and official reports relevant to the research topic. Meanwhile, studies not directly related to food distribution systems, duplicate publications, non-academic opinion articles, and sources lacking sufficient methodological explanation were excluded from the analysis. The literature screening process was conducted in several stages. First, the researcher identified relevant publications based on titles and abstracts. Second, selected studies were reviewed in full text to evaluate their relevance to the research objectives. Third, the researcher categorized the selected literature by key themes, including distribution effectiveness, supply chain coordination, price stability, value chain structures, and institutional arrangements within the chicken-and-egg market system.

Data collection was conducted using documentation techniques, systematically collecting, reviewing, and organizing literature relevant to the research focus. The collected data included conceptual discussions, empirical findings, distributional characteristics, supply chain structures, and institutional factors related to chicken-egg distribution and food price stability. According to Zed (2008) and Malahati *et al.*, (2023), library research involves gathering information from various sources, such as books and journals. In this study, the collected literature served as the primary source for identifying recurring themes, conceptual relationships, and analytical patterns related to distribution effectiveness and price stability.

The data were analyzed using qualitative descriptive analysis combined with content analysis techniques. The analysis process involved data reduction, thematic categorization, interpretation, and synthesis of findings from the selected literature. The researcher applied thematic coding procedures

to classify recurring issues related to logistics costs, distribution efficiency, intermediary dominance, market accessibility, institutional coordination, and regional price disparities. Through this process, the study identified conceptual relationships and analytical patterns that explain how distribution effectiveness influences chicken-and-egg price stability within the food system. Sugiyono (2013) stated that data analysis in qualitative research is inductive and based on data collected in the field. Accordingly, the conclusions of this study were developed inductively from patterns and relationships identified during the literature analysis.

4. Results and Discussion

4.1 Analysis Results

The analysis results show that the distribution of chicken eggs is an important factor in maintaining food price stability. Distribution inefficiency may increase logistics costs, disrupt supply continuity, and cause price instability, directly affecting consumer purchasing power and market accessibility. The stability of chicken and egg prices is determined not only by production capacity but also by the effectiveness of the distribution system, coordination among supply chain actors, and interregional market integration. Therefore, distribution plays a strategic role in maintaining regional supply balance and supporting national food security.

The analysis also shows that the country's geographical conditions strongly influence the effectiveness of chicken-and-egg distribution in Indonesia as an archipelagic state. This geographical structure creates logistical complexity, limited transportation access, and differences in distribution costs across regions. Geographic fragmentation remains one of the main structural barriers to achieving an efficient and equitable food distribution system. In addition to geographical factors, the long distribution chain is a major cause of inefficiency in chicken-egg distribution. Chicken eggs generally pass through several distribution actors, such as collectors, wholesalers, and retailers, before reaching final consumers. Each additional actor in the distribution chain may increase transaction costs, distribution margins, and final consumer prices.

The analysis indicates that a long intermediary structure may weaken market efficiency and widen the price gap between producers and consumers. Thus, distribution chain efficiency is an important factor in maintaining chicken egg price stability. Chicken-egg distribution also faces increasingly complex challenges due to population growth, shifts in consumption patterns, rising demand, and rising fuel and logistics costs. Increased demand that is not supported by an optimal distribution system may create an imbalance between supply and demand in the market. From the supply chain perspective, the analysis shows that coordination among actors strongly influences distribution flow, supply continuity, information flow, logistics efficiency, and market responsiveness. Weak coordination among actors may delay product movement and reduce the distribution system's effectiveness in stabilizing prices across regions.

The analysis further shows that institutional weaknesses and limited coordination among farmers, distributors, traders, and market institutions remain major constraints in the chicken egg distribution system. Weak integration among actors makes distribution less responsive and creates supply imbalances between regions. As a result, market prices become more volatile and difficult to control. Information asymmetry is also an important factor affecting the effectiveness of distribution. Unequal access to price and demand information, particularly among farmers, weakens market

transparency and limits producers' ability to make accurate pricing and distribution decisions. This condition increases farmers' dependence on intermediaries who have better access to market information and wider distribution networks.

The analysis shows that the integration of digital technology in food distribution systems remains relatively limited, especially in the real-time dissemination of market prices, supply conditions, and regional demand information. The limited use of digital distribution systems may reduce market efficiency and slow supply chain responsiveness to changes in demand and supply. The market structure, which intermediaries still dominate, also creates unequal bargaining positions in the supply chain. Farmers' dependence on wholesalers weakens their control over market prices and access to distribution channels. Meanwhile, consumers face higher prices due to additional margins at each stage of distribution. The analysis indicates unequal market power within the chicken-egg supply chain, where intermediary actors exert greater influence over pricing mechanisms and distribution channels. This imbalance affects the distribution of value, as farmers, as primary producers, receive relatively smaller economic benefits than intermediaries who control market access and distribution systems. Logistics costs are also among the most influential factors in chicken-and-egg price stability. Transportation, storage, and distribution costs directly affect the final price of products at the consumer level. The higher the logistics costs, the greater the pressure on chicken egg prices in the market.

The analysis shows that although production factors, such as feed costs and laying hen productivity, also influence price fluctuations, distribution effectiveness plays a more decisive role in shaping final consumer prices. This is because distribution is directly related to logistics costs, market access, and regional supply balance. Seasonal demand also affects the price stability of chicken eggs. During certain periods, such as religious holidays, demand for chicken eggs increases significantly. The analysis shows that supply chain responsiveness and distribution flexibility become increasingly important during periods of high demand, as distribution delays may intensify supply shortages and increase price volatility. The analysis results show that multidimensional interactions among distribution efficiency, supply chain coordination, intermediary structure, logistics costs, market information access, and institutional effectiveness shape chicken-egg price stability. Distribution functions not only as a product delivery mechanism but also as a strategic determinant of regional supply balance, market integration, and food price stability.

4.2 Discussion

Chicken-egg distribution is an important part of the national food system because it helps ensure food availability and maintains price stability. As one of the most widely consumed animal protein commodities, chicken eggs require an efficient and well-coordinated distribution system to maintain supply balance across regions and reduce price disparities between production and consumption areas. This finding is consistent with Nainggolan (2008), who stated that the interconnections among supply, demand, and price stability strongly influence food security. Therefore, food price stability is influenced not only by production but also by equitable and sustainable distribution. Indonesia's geographical condition as an archipelagic country makes interregional chicken egg distribution more complex and costly. The distance between production centers and consumption areas lengthens distribution routes, which affects consumer prices. This condition may lead to price disparities between regions. This finding is supported by Nuryati and Nur (2012), who stated that variations in chicken egg prices are influenced by uneven distribution and differences in transportation costs across regions.



The length of the distribution chain is also an important issue in the chicken egg distribution system. Chicken eggs generally pass through several stages of distribution before reaching final consumers. Each stage adds distribution costs, which increases the selling price at the consumer level. Therefore, distribution chain efficiency is essential for maintaining price stability. This is consistent with Oktavianti (2013), who stated that market structure and long distribution patterns contribute to price formation and regional inflation. Economic changes and shifting consumption patterns also increase challenges for chicken-and-egg distribution. Population growth and lifestyle changes have increased the demand for chicken eggs. However, this increasing demand is not always supported by an optimal distribution system. In addition, rising fuel prices and logistics costs in recent years have worsened distribution efficiency, especially in areas far from production centers. From a supply chain perspective, chicken-and-egg distribution involves various economic actors, including farmers, collectors, wholesalers, retailers, and final consumers. Each actor plays a role in determining the flow of distribution and market prices. Relationships among supply chain actors are crucial for creating an efficient distribution system. This view is in line with Sejati (2011), who stated that the chicken egg supply chain reflects vertical relationships among actors involved in production, distribution, and marketing. However, in practice, the chicken-and-egg supply chain still faces various obstacles, particularly in institutional arrangements and coordination among actors. Lack of integration among farmers, distributors, traders, and market institutions causes suboptimal distribution and supply imbalances. This condition leads to price fluctuations that are difficult to control. This finding is supported by Sejati (2011), who stated that weak supply chain institutions are among the main causes of problems in chicken-and-egg distribution. Limited access to market information is also a major problem in chicken egg distribution. Price and demand information is often unevenly distributed, especially among farmers. This makes it difficult for farmers to set selling prices according to market conditions. Information inequality also strengthens farmers' dependence on intermediary actors. This is in line with Balher *et al.*, (2022), who stated that limited information in the supply chain affects business decision-making.

The problems of chicken-and-egg distribution in Indonesia are caused not only by technical factors, such as infrastructure and transportation costs, but also by the weak integration of technology-based distribution systems. Limited use of digital technology causes business actors, especially farmers, to lack sufficient information for making accurate decisions. This condition supports the findings of Balher *et al.*, (2022), which show that limited information in the supply chain affects distribution efficiency. The market structure, which intermediaries still dominate, also makes distribution less efficient and tends to disadvantage farmers. Farmers' dependence on wholesalers weakens their bargaining position and lengthens the distribution chain. As a result, consumer prices become higher. Therefore, distribution system innovation is needed, such as strengthening farmers' access to digital markets or direct selling, to shorten the distribution chain. This is in line with the concept of supply chain efficiency proposed by Ramadhan *et al.*, (2024), which states that an integrated distribution system can improve efficiency and price stability.

The dominance of conventional markets also affects the distribution of chicken eggs. In this system, wholesalers play a dominant role in determining prices and distribution channels. Farmers often become price takers because they depend on wholesalers to sell their products. This finding is consistent with Sejati (2011), who stated that farmers tend to be price takers in the chicken egg supply chain. Inequality in the value chain indicates that the distribution system has not delivered optimal value to all actors. Farmers, as primary producers, receive smaller profits than other actors in the distribution chain.

Therefore, improvements in value distribution are needed to make economic benefits in the supply chain more equitable. This finding is supported by Is (2019), who stated that the value distribution in the chicken-egg supply chain is not yet equitable.

Logistics costs have a major influence on chicken egg prices in the market. Transportation, storage, and distribution costs are the main components of the final price. An increase in logistics costs will directly affect the prices consumers pay. This finding is consistent with Nuryati and Nur (2012), who stated that distribution costs are among the main factors driving chicken-egg price fluctuations. Besides distribution, production factors such as feed prices and laying hen productivity also influence the stability of chicken egg prices. Rising feed prices can increase production costs, which then affect selling prices. However, distribution remains the dominant factor in determining consumer-level prices. This finding is in line with Mubarok *et al.*, (2024), who stated that both production and distribution factors influence price volatility. Seasonal demand is also an important factor in price formation. During certain periods, such as religious holidays, demand for chicken eggs increases and may drive prices upward. This condition indicates that both demand dynamics and distribution effectiveness influence price stability. This is reinforced by Chamidah *et al.*, (2025), who stated that changes in demand affect commodity price fluctuations.

In a broader context, food distribution networks play an important role in maintaining the balance between supply and demand. Effective distribution ensures equal availability of products and prevents shortages or oversupply. This finding is in line with Januar *et al.*, (2022), who stated that distribution networks significantly influence price stability. Efficient supply chain management can improve distribution performance and reduce logistics costs. This can be achieved through coordination among actors, institutional integration, and transparency in market information. Thus, supply chain efficiency can serve as a solution to chicken egg distribution problems. This is in line with Ramadhan *et al.*, (2024), who stated that a dynamic systems model can improve the efficiency of the chicken-egg supply chain.

The government also plays an important role in addressing food distribution issues, including those related to chicken eggs. Policies that support logistics infrastructure development, fuel price stabilization, and transparent market information can help improve distribution efficiency. Without proper policy intervention, distribution problems will continue to occur and affect food price instability. This is in line with Ilham *et al.*, (2006), who emphasized that food pricing policy plays an important role in maintaining national food security. In addition to the government, distributors also have a strategic role in maintaining smooth distribution and market supply stability. Distributors act as a link between producers and consumers. However, distributor effectiveness depends on their ability to coordinate product flows, manage logistics systems, and maintain fair market access for all supply chain actors. This finding is in line with Febriani and Amirah (2026), who stated that distributors play an important role in maintaining the smooth flow of goods.

Based on this discussion, strengthening institutional coordination, improving logistics infrastructure, increasing market information transparency, integrating digital technology, and expanding farmers' access to distribution networks are important steps toward creating a more efficient, equitable, and sustainable chicken-egg distribution system.

5. Concluding Remarks and Recommendation

This study was conducted to analyze the effectiveness of chicken-egg distribution in maintaining food price stability within the national food system using a qualitative library research approach and content analysis. The study addressed how distribution effectiveness influences regional price stability and supply balance in the chicken-and-egg market. Based on the findings, chicken egg distribution plays a strategic role in supporting food availability and maintaining price stability. However, the distribution system has not yet operated optimally due to several structural constraints, including long distribution chains, high logistics and transportation costs, weak coordination among supply chain actors, unequal market information, and limited institutional integration. In addition, geographical fragmentation, seasonal demand fluctuations, and production disturbances also contribute to instability in chicken egg prices. The findings further demonstrate that distribution effectiveness is not solely related to product delivery but also to logistics efficiency, regional market integration, supply continuity, and the distribution system's ability to reduce price disparities between regions.

This study contributes theoretically by strengthening the conceptual understanding of the relationships among distribution effectiveness, supply chain coordination, intermediary structures, and food price stability within the chicken-and-egg market system. Unlike previous studies that generally focused separately on production constraints or logistics efficiency, this study integrates perspectives on distribution networks, institutional coordination, value chain inequality, market information accessibility, and regional price disparities into a broader analytical framework. In practice, the findings highlight the importance of strengthening coordination among actors in the supply chain, improving logistics infrastructure, increasing transparency in market information, and expanding farmers' access to distribution networks and digital markets. From a policy perspective, this study emphasizes the need for government intervention to strengthen food distribution governance, support integrated supply chain systems, stabilize logistics costs, and improve institutional arrangements to create a more efficient and equitable food distribution system.

This study has several limitations that should be acknowledged. First, the study relied exclusively on secondary data from the literature and did not involve direct field observations or interviews with actors in the chicken-egg supply chain. Second, the analysis focused primarily on conceptual and thematic synthesis, limiting the ability to quantitatively measure the magnitude of the relationship between distribution effectiveness and price stability. Third, several sources in the literature on food distribution systems remain limited in providing detailed empirical evidence on logistics margins, intermediary dominance, and regional price convergence. Therefore, future studies are recommended to combine qualitative and quantitative approaches through field surveys, interviews, or case studies involving farmers, distributors, traders, and consumers in different regions. Future research may also explore the role of digital distribution systems, real-time market information integration, and institutional collaboration models in improving food distribution efficiency and strengthening regional food price stability.

Statement of Use of Generative AI

During the preparation of this work, the author used ChatGPT to assist in improving clarity and readability of the text. The author reviewed and edited the output and takes full responsibility for the content of the publication.



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